

Remarks

The Office action dated October 21, 2008 has been received and carefully considered.

Applicant notes with appreciation the Examiner's removal of the restriction requirement, as well as the Examiner's indication that claims 3-5, 14, 15, 17, 20, and 21 contain allowable subject matter.

The Office action rejects claims 1, 2, 6-11, 13, 16, 18, and 19 under 35 U.S.C. § 103(a) over U.S. Patent No. 5,660,482 (Newley) in view of GB Patent No. 2,170,279 (Harrison). These rejections are respectfully traversed for the reasons set forth below.

Claim 1 concerns a self-lubricating bearing having a self-lubricating liner and a counterface surface in close sliding contact therewith, the counterface surface having a surface finish of less than 20 nm and a hardness of less than in the region of 1000 VPN. The Office action alleges that Newley discloses the claimed self-lubricating bearing except that it does not disclose a surface finish of less than 20 nm. The Office action further alleges that it would have been obvious to provide the bearing of Newley with a surface finish of less than 20 nm based on the disclosure of Harrison. Applicant disagrees for at least two reasons. First, the Office action mischaracterizes the bearing disclosed in Newley. Second, one of ordinary skill in the art would not combine the teachings of Newley and Harrison because they teach away from such combination.

The Office action alleges that Newley discloses a self-lubricating bearing having a bearing liner in close sliding contact with a counterface surface having a hardness of less than in the region of 1000 VPN. Applicant disagrees. Newley discloses that the inner surface 2 of the outer bearing race 1 may be chromium plated, but chromium plating is not a self-lubricating liner. *See* Newley col. 2, lines 3-4. Newley also discloses that the outer surface 4 of the inner

bearing member 3 is coated with nickel and a fluorocarbon polisher and that the coating has a hardness in the range of “750 to 1000 VPN.” Newley col. 2, lines 5-6, 13. If the Examiner contends that this coating on the outer surface 4 provides the counterface surface, then the coating on surface 4 cannot also constitute the self-lubricating liner of claim 1 because this coating is on the counterface surface itself, and thus cannot be in sliding contact with the counterface surface, as required by claim 1.

Even if Newley were interpreted alternatively so that the coating on the outer surface 4 was seen to be a self-lubricating liner, the bearing disclosed in Newley still would not possess the features recited in the present claim 1. If the nickel and fluorocarbon coating on the outer surface 4 is a self-lubricating liner, then the inner surface 2 of the outer bearing race 1 would have to constitute the counterface surface of claim 1. However, the chromium plated inner surface 2 of the outer bearing race 1 is not disclosed as having a surface finish of less than 20 nm or a hardness of less than 1000 VPN, and is understood to be an untreated surface. In fact, Newley does not disclose any particulars regarding the surface finish or properties of the chromium plating on the inner surface 2. Thus, Newley does not meet the limitations of claim 1 under this interpretation of Newley.

Even if, *arguendo*, Newley disclosed a bearing having a self-lubricating liner and a counterface surface having a hardness of less than in the region of 1000 VPN, one of ordinary skill in the art would not combine the teachings of Newley and Harrison to provide a surface finish of less than 20 nm because Newley and Harrison teach away from their combination. Newley discloses that the outer bearing surface 4 of the inner bearing member 3 is coated with nickel and a fluorocarbon polish having a hardness of between 750 and 1000 VPN. Newley col. 2, lines 5-13. Thus, Newley discloses that the inner bearing member has a hardness of less than

or up to 1000 VPN. By contrast, the bearing disclosed in Harrison requires a counterface having a hardness of greater than 1000 VPN, and preferably greater than 1100 VPN. Harrison p. 2, lines 11-14, 29. Because the hardness requirements of the bearings disclosed in Harrison and Newley are mutually exclusive, one of ordinary skill in the art would not apply the teachings of one reference to modify the bearing disclosed in the other. Thus, one of ordinary skill in the art would not, based on Harrison, provide the bearing of Newley with a surface finish of less than 20 nm.

For at least these reasons, claim 1 is not obvious over the combination of Newley and Harrison, and this rejection should be withdrawn.

Claims 2 and 6-8 depend from claim 1 and are thus nonobvious over Newley and Harrison for at least the same reasons claim 1 is nonobvious, and because each dependent claim recites a distinctly patentable combination of features.

Independent claim 9 concerns a method of constructing a self-lubricating bearing comprising providing a self-lubricating liner in sliding contact with a counterface surface having a surface finish of less than 20 nm and a hardness of less than 1000 VPN. Claim 9 is not rendered obvious by Newley or Harrison (alone or in combination), and the rejection of claim 9 should be withdrawn.

Claims 10, 13, 16 depend from claim 9 and are nonobvious over Newley and Harrison for at least the same reasons claim 9 is nonobvious, and because each dependent claim recites a distinctly patentable combination of features.

Independent claim 11 concerns a method of operating a self-lubricating bearing having a self-lubricating liner in sliding contact with a counterface surface having a surface finish of less

than 20 nm and a hardness of less than 1000 VPn. Thus, claim 11 cannot be obvious over Newley and Harrison and the rejection of claim 11 should be withdrawn.

Claims 18 and 19 depend from claim 11 and are thus nonobvious over Newley and Harrison for at least the same reasons claim 11 is nonobvious, and because each dependent claim recites a distinctly patentable combination of features.

Accordingly, applicants respectfully request that the rejections under 35 U.S.C. § 103(a) over Newley and Harrison be withdrawn. The Examiner is invited to telephone the undersigned attorney at the telephone number provided with any questions regarding this response.

Respectfully submitted,

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